PRELIMINARY

SFF130G

SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada,CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

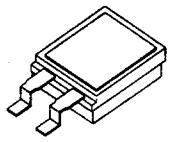
14 AMP
100 VOLTS
0.18 Ω
N-CHANNEL
POWER MOSFET

Designer's Data Sheet

FEATURES:

- Rugged construction with poly silicon gate
- Low RDS(on) and high transconductance
- Excellent high temperature stability
- Very fast switching speed
- Fast recovery and superior dv/dt performance
- Increased reverse energy capability
- Low input and transfer capacitance for easy paralleling
- Hermetically sealed surface mount package
- Low inductance package
- TX, TXV and Space Level screening available
- Replaces: IRF130 Types

CERPACK



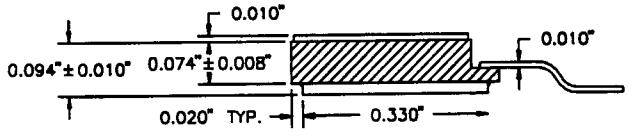
MAXIMUM RATINGS

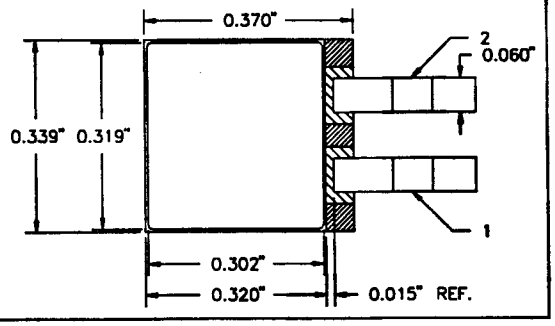
CHARACTERISTIC		SYMBOL	VALUE	UNIT
Drain to Source Voltage		V_{DS}	100	Volts
Gate to Source Voltage		V_{GS}	±20	Volts
Continuous Drain Current	@TC=25°C @TC=100°C	I_D	14 9	Amps
Operating and Storage Temperature		T_{op} & T_{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case		$R_{\theta JC}$	2.8	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C		P_D	44 34	Watts
Single Pulse Avalanche Energy		E_{AS}	75	mJ
Repetitive Avalanche Energy		E_{AR}	7.5	mJ

PACKAGE OUTLINE: CERPACK

PIN OUT:

PIN 1: SOURCE
PIN 2: GATE
CASE: DRAIN





NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: F00021 B

MED

PRELIMINARY

SFF130G

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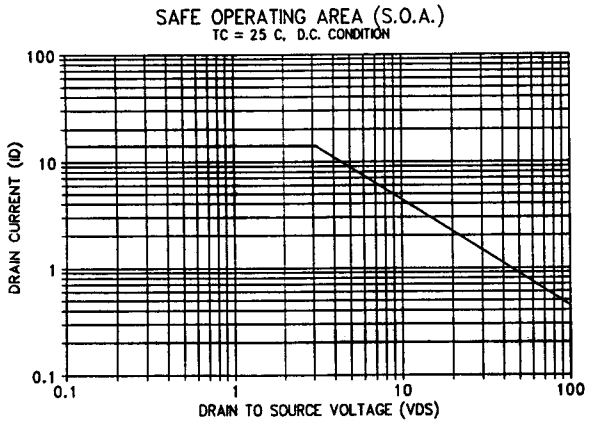
ELECTRICAL CHARACTERISTICS @ T_J=25°C (Unless Otherwise Specified)

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=250μA)		BV_{DSS}	100	---	---	V
TemperatureCoefficient of Breakdown Voltage		$\frac{\Delta BV_{DSS}}{\Delta Tj}$	---	0.13		V/°C
Drain to Source on State Resistance (VGS=10 V)	ID=9 A ID=14 A	$R_{DS(on)}$		0.13 0.14	0.18 0.21	Ω
Gate Threshold Voltage (VDS=VGS, ID=250μA)		$V_{GS(th)}$	2	2.8	4	V
Forward Transconductance (VDS >ID(on) X RDS(on) Max, IDS=9 A)		gfs	4.6	7	--	S(℧)
Zero Gate Voltage Drain Current (VDS=80% rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125°C)		I_{DSS}	--- ---	--- ---	25 250	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At rated VGS	I_{GSS}	--- ---	--- ---	100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	VGS=10 Volts 50% rated VDS Rated ID	Qg Qgs Qgd	12 1.5 5	20 --- ---	35 10 15	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS ID=14 A RG=7.5Ω	td(on) tr td(off) tf	--- --- --- ---	9.5 42 22 25	35 80 60 45	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, TJ=25°C)		V_{SD}	---	1.15	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	TJ=25°C IF=rated ID di/dt=100 A/μsec	trr QRR	--- ---	120 0.7	300 3	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz	Ciss Coss Crss	--- --- ---	650 250 44	--- --- ---	pF